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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Howard M Cohn Robert Brown Dep 823 The Goodyear Tire & Rubber Company 1144 East Market Street Akron, OH 44316-0001				
EXAMINER FISCHER, JUSTIN R				
ART UNIT 1733		PAPER NUMBER		

DATE MAILED: 01/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10018,869

Examiner

Justin R Fischer

Applicant(s)

NGUYEN ET AL

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet, 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet, 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-648)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 13, 14, 16, 17, 22, 25, 27, and 29 are rejected under 35 U.S.C. 102(a) as being anticipated by Zhang (WO 98/54012, of record). As best depicted in Figures 4 and 5, Zhang teaches a pneumatic radial ply runflat tire construction having a tread 12, two inextensible annular beads 26, 26A, a carcass structure 30 comprising a metal reinforced first or inner carcass ply 38, a second or outer carcass ply ("at least one carcass ply"), an innerliner 35, a belt structure 36, two sidewall regions 20, and at least one wedge insert 42 in each of the sidewall regions. In this instance, Figures 4 and 5 depict both a first sidewall insert or wedge 42, which is axially inward of the innermost carcass ply, and a second sidewall insert 46. Zhang further teaches that the sidewall inserts may be cord reinforced, such that a first cord reinforced layer or fabric would be disposed between the innerliner and the innermost carcass ply. Thus, the embodiment depicted in Figure 5 would result (although the embodiment of Figure 5 is directed to the fabric layers formed of short fibers, the embodiment in which the fabric layers are cord reinforced layers would result in the claimed arrangement).

With respect to claims 16, 17, and 29, Zhang suggests that the cords are preferably inclined at an angle of at least 45 degrees with respect to the circumferential

direction (Page 23, Lines 1-10). The reference further teaches that the cords should not be circumferentially extending, suggesting that additional inclination angles outside of the preferred range noted above are within the scope of Zhang (as long as the angle is not zero degrees with respect to the circumferential direction).

As to claim 22, Zhang suggests the use of rayon and polyester for the cord reinforced layer or fabric layer (Page 22, Lines 29-35).

Regarding claim 25, is evident from Figures 4 and 5 that the fabric layers are centered across the central area of the sidewall inserts.

With respect to claim 27, as noted above, a first cord reinforced layer or fabric is disposed inward of the innermost carcass ply. Additionally, "the insert 46" that is positioned between the respective carcass plies can be cord reinforced- in this instance, the second cord reinforced layer would be disposed between the innermost carcass ply and "the wedge insert" in an analogous manner to the claimed invention.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 13-17, 22-25, 27, 29, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang as applied in claim 13 above and further in view of Kono (JP 01297306, of record), Verdier (US 3,464,477, of record), and Mezzanotte (EP 0385192, of record). In Figures 4 and 5, Zhang depicts the cord reinforced layers as

extending in to the shoulder region and over approximately 100 percent of the radial width of the associated sidewall insert. However, the reference places no criticality on the radial extent of the cord reinforcing layer and one of ordinary skill in the art at the time of the invention would have found it obvious to dispose the cord reinforcing layer within the sidewall region and particularly a range of 20% to 80%, more preferably 40% to 60%, of the radial width of the sidewall insert as such an arrangement is extensively used in similar tire designs, as shown for example by Kono (Figure 5), Verdier (Figure 2), and Mezzanotte (Figure 1). It is emphasized that the limitations of the claimed invention require that the cord reinforcing layers or fabric have a radial width that is not extremely small and which does not exceed the radial width of the sidewall insert. One of ordinary skill in the art at the time of the invention, without undue experimentation, would have been able to optimize the performance of the sidewall inserts by appropriately selecting the radial extent of the cord reinforcing layers (fabric layers) and in view of similar tire designs, one of ordinary skill in the art at the time of the invention would have found the broad range of the claimed invention to have been obvious and define common tire arrangements, there being no conclusive showing of unexpected results to establish a criticality for the claimed radial width.

5. Claims 18, 19, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang as applied in claims 13 and 29 above, respectively. In describing the cord reinforced layer, Zhang describes the use of a plurality of synthetic materials and further suggests multiple inclination angles- the reference, however, is completely silent with respect to the diameter of the reinforcing cords. In any event, the

claimed invention defines an extremely broad range that represents a majority of the reinforcing elements used in tire constructions. As such, one of ordinary skill in the art at the time of the invention would have found it obvious to use reinforcing cords having a diameter between 0.2 and 1.5 millimeters, preferably 0.3 and 1.0 millimeters. It is emphasized that this range of diameters is extensively used in nearly all tire components, including belt layers, carcass layers, and sidewall/bead reinforcing layers. Furthermore, the size of the reinforcing cord would be dependent on the specific type of car being manufactured (larger cords are generally used in heavy duty, off-road, and agricultural designs).

6. Claims 20, 21, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang as applied in claims 13 and 27 above, respectively, and further in view of Kanai (US 6,269,857, newly cited). As previously stated, Zhang suggests the use of a plurality of synthetic materials, including rayon and polyester, for the cord reinforced layer or fabric layer. While the reference fails to define the end count of these layers, one of ordinary skill in the art at the time of the invention would have found it obvious to form the layers with an end count between 15 and 50 ends per inch, more preferably 20 to 35 ends per inch, as it defines a broad range of commonly used ply constructions. For example, Kanai teaches an extremely similar tire construction in which a cord reinforced layer is disposed in the sidewall region of a runflat tire. In this instance, the layer is formed of rayon and has an end count of 24 ends per inch (Column 6, Lines 39-45). Thus, the claimed values for the end count represent those that are conventionally employed in a plurality of ply constructions,

including plies that function as reinforcing layers in runflat constructions. Lastly, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed end count.

7. Claims 26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang as applied in claim 27 above and further in view of Verdier. As previously noted, Zhang teaches the inclusion of multiple sidewall inserts 42 and 46, wherein each of the inserts can include a cord reinforced layer or fabric layer. While the figures fail to expressly depict the fabric layer as directly contacting the carcass ply, one of ordinary skill in the art at the time of the invention would have found such a construction obvious in view of common tire constructions. For example, Verdier is directed to a similar tire construction in which a cord reinforced layer or fabric is disposed inward and directly adjacent a carcass ply. It is noted that Zhang does not exclude such a construction but rather depicts an exemplary embodiment in which the fabric does not contact the carcass ply. Also, regarding the orientation of the reinforcing cords, Zhang teaches that the cords can have a variety of inclination angles, preferably greater than 45 degrees with respect to the circumferential direction (this language suggests the use of cords having angles below 45 degrees). In this instance, the reference specifically suggests that the cords should not be circumferentially inclined. While Zhang fails to expressly describe the respective cords as being crossed, one of ordinary skill in the art at the time of the invention would have found such an arrangement obvious since it is commonly employed in adjacent reinforcing plies to optimize the degree of reinforcement. For example, Verdier teaches the inclusion of multiple sidewall

reinforcing layers or fabrics, wherein the cords in respective layers are crossed with one another (Figure 3). It is emphasized that the claimed crossing relationship is extensively used with adjacent plies for the benefits detailed above (e.g. belt constructions).

Response to Arguments

8. Applicant's arguments with respect to claims 7-12 (or 8-13) have been considered but are moot in view of the new ground(s) of rejection. Regarding Zhang, applicant contends that the elastomeric fillers or sidewall inserts are not analogous to the fabric layers of the claimed invention. The sidewall inserts were never defined as constituting the fabric layers of the claimed invention but rather the cord reinforced layers that are embedded within the sidewall inserts are seen to constitute the fabric layers of the claimed invention. In this instance, the innermost sidewall insert 42 and outer sidewall insert 46 can be cord reinforced or fabric reinforced, such that carcass ply 38 would be disposed intermediate a first cord reinforced layer or fabric layer and a second cord reinforced layer or fabric layer. This embodiment is depicted in Figure 5 with a short fiber layer as opposed to a cord reinforced layer.

As to the radial extent of the cord reinforced layer, Zhang fails to place any criticality on this arrangement. One of ordinary skill in the art at the time of the invention would have been able to optimize the runflat sidewall assembly without undue experimentation by selecting an appropriate radial extent for the cord reinforcing layer suggested by Zhang. The argument that a radial extent greater than 80% would increase the tire weight is not seen to be a conclusive showing of unexpected results.

Additionally, Mezzanotte, Verdier, and Kono illustrate that it is known in the tire industry to place a cord reinforcing layer within a sidewall rubber region, wherein said cord reinforcing layer extends a certain percentage of the radial extent of the rubber region (does not have to extend 100% of radial extent of rubber region).

As to Hoshino, Poque, and Alie, these rejections are no longer applicable in view of the amended claim language.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R Fischer** whose telephone number is (571) 272-1215. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


Justin Fischer

January 16, 2004


JEFF H. AFTERBERG
PRIMARY EXAMINER
GROUP 1300